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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

CHOI et al.

International Application No. PCT/KR2003/001820

Serial No. NOT YET ASSIGNED

International Filing Date: 4 September 2003(08.09.2003)

Filed: March 11, 2005

For: **METHOD FOR SCREENING OF A LIPASE HAVING IMPROVED ENZYMATIC ACTIVITY USING YEAST SURFACE DISPLAY VECTOR AND THE LIPASE**INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

An Information Disclosure Statement is submitted herewith pursuant to 37 C.F.R. § 1.97-1.98. Please note the following particulars:

[NOTE: One only of items a, b, c, and d must be checked.]

- ☒ a. The enclosed statement is being filed within three months of the filing date of a national application, or within three months of the date of entry into the national stage as set forth in 37 C.F.R. § 1.491 in an international application, or before the mailing date of a first Office Action on the merits, whichever event occurs last.
- ☐ b. The enclosed statement is being filed after a first action on the merits but before the mailing date of a final action under 37 C.F.R. § 1.113, or a notice of allowance under 37 C.F.R. § 1.311.

The enclosed statement is accompanied by [check one]:

- ☐ i. a certification in part (e) below as specified in 37 C.F.R. § 1.97(e), or
- ☐ ii. a check in the amount required by 37 C.F.R. § 1.17(p).
- ☐ c. The enclosed statement is being filed after the mailing date of a final action under 37 C.F.R. § 1.113, or a notice of allowance under 37 C.F.R. § 1.311, but before payment of the issue fee.
- ☐ Certification report(e) below; and
- ☐ a check in the amount as required by § 1.17(p).
- ☐ d. The enclosed statement is being filed pursuant to 37 C.F.R. § 1.97(i), for placement in the file.
- ☐ e. Certification [Check one] [Certification is required only if box (b)(i) or box (c) is checked.]

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[] I hereby certify that each item of information contained in the enclosed Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement,

or

[] I hereby certify that no item of information in the enclosed Information Disclosure Statement herewith was cited in a communication from a foreign patent office in a counterpart foreign application, or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

or

[] Appropriate certification is attached.

[X] f. If no check is enclosed and a fee is due in connection with this communication or if the check enclosed is insufficient, the Commissioner is authorized to charge any fee or additional fee due in connection with this communication to Deposit Account No. 14-0112.

[X] g. Copies of the documents are attached herewith with a completed Form PTO-1449.

or

[] Copies of the documents are not attached as allowed under CFR 1.98(d)(1)(2). The earlier application is identified as: or Copies of US Patents/Publications not attached as allowed in Official Gazette Aug. 5, 2003/ Vol. 1273, no. 1 or was filed after June 30, 2003.

The Examiner is respectfully requested to cite the documents listed on the attached Form PTO-1449 in the next Office Action. In so doing, the Examiner is respectfully requested to initial in the space adjacent to the listing of each document on the Form PTO-1449, and return a copy of the initialed Form PTO-1449 with the next communication to Applicants, to confirm that these documents have been considered by the Examiner and made of record in this application.

If the Examiner has any questions or wishes to discuss this application, kindly telephone the undersigned at the below-listed number.

Respectfully submitted,
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FORM PTO-1449 SUPPLEMENTAL INFORMATION DISCLOSURE CITATION				Atty Docket 26666U		Serial No. 10/527438 Not Yet Assigned	
				Applicant CHOI et al.			
				Filing Date March 11, 2005		Group Art Unit Not Yet Assigned	
U.S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Issue Date	Name	Class	Sub-Class	Filing Date
	AA						
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Sub-Class	Translation
	AB	WO 95/14783	01 June 1995	WIPO			ABSTRACT
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
	AC	Patkar, S.A. et al. "Effect of mutation in non-consensus sequence Thr-X-Ser-X-Gly of <i>Candida antarctica</i> lipase B on lipase specificity, specific activity and thermostability", <i>Journal of Molecular Catalysis B: Enzymatic</i> , vol. 3 pp. 51-54, 1997.					
	AD	Sawano, A. et al. "Directed evolution of green fluorescent protein by a new versatile PCR strategy for site-directed and semi-random mutagenesis", <i>Nucleic Acids Research</i> , vol.28(16) pp.i-vii, 2000.					
	AE	Uppenberg, J. et al. "The sequence, crystal structure determination and refinement of two crystal forms of lipase B from <i>Candida antarctica</i> ", <i>Structure</i> , vol.2(4) pp.293-308, 1994.					
	AF	Kim, Y.J. et al. "Effect of Linoleic Acid Concentration on Conjugated Linoleic Acid Production by <i>Butyrivibrio fibrisolvens</i> A38", <i>Applied and Environmental Microbiology</i> , vol.66(12) pp.5226-5230, 2000.					
	AG	Kieke, M.C. et al. "Isolation of anti-T cell receptor scFv mutants by yeast surface display", <i>Protein Engineering</i> , vol.10(11) pp.1303-1310, 1997.					
	AH	VanAntwerp, J.J. et al. "Fine Affinity Discrimination by Yeast Surface Display and Flow Cytometry", <i>Biotech. Prog.</i> , vol. 16 pp.31-37, 2000.					
	AI	Schreuder, M.P. et al. "Targeting of a Heterologous Protein to the Cell Wall of <i>Saccharomyces cerevisiae</i> ", <i>Yeast</i> , vol.9 pp.399-409, 1993.					
	AJ	Murai, T. et al. "Development of an arming yeast strain for efficient utilization of starch by co-display of sequential amylolytic enzymes on the cell surface", <i>Appl Microbiol Biotechnol</i> , vol.51 pp.65-70, 1999.					
	AK	Patkar, S. et al. "Effect of mutations in <i>Candida antarctica</i> B lipase", <i>Chemistry and Physics of Lipids</i> , vol.93 pp.95-101, 1998.					
Examiner				Date Considered			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP ' 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							